### **Region 1 Broadband Investment Plan**

### **DRAFT - June 7, 2011**

#### Case Study of Panhandle Area Council Fiber Infrastructure Project

- [1] As part of the LinkIDAHO project, a diverse group of stakeholders in Region 1, North Idaho, has been meeting since December 2010 to assess needs that can be advanced by more available and more widely utilized broadband services.
- [2] This case study describes the Panhandle Area Council (PAC) fiber infrastructure project with US Metronets and the cities of Sandpoint, Bonners Ferry, Kootenai, and Ponderay, which are located in Bonner and Boundary County. The PAC project addresses a critical infrastructure need in North Idaho. This case study describes the project, conditions that made it possible, and other information that could be helpful for replication in other Idaho communities.

### **Background**

- [3] North Idaho has been historically underserved due to few providers, high costs for broadband access, and a general lack of available bandwidth to meet the ever-expanding needs of the region's businesses, residents and institutions.
- [4] In 2009, PAC in partnership with Bonner County Economic Development Corporation, Boundary Economic Development Council, US Metronets, and the City of Sandpoint submitted a proposal to the National Telecommunications and Information Administration (NTIA) to build a fiber network for Bonners Ferry, Kootenai, Ponderay, and Sandpoint that would connect to the transcontinental dark fiber owned by 360Networks. This proposal was not funded; so in March 2011, PAC in partnership with many of the original grant partners put together a municipal bond to secure funding for this network through a 20-year financed term -- the initial bond will be refinanced over 6 years. The effort includes the cities of Bonners Ferry, Kootenai, Ponderay, and Sandpoint. The infrastructure will be secured by anchor tenants, and 360Networks will provide the backhaul and build a Point of Presence (POP) in Sandpoint.
- [5] Ernie Bray, Founder and Chief Technology Officer of US Metronets, using their modeling projections determined that a 29% "take rate" of the new broadband infrastructure would be required to generate revenue on the investment for the cities. After the 29% rate is achieved, then the rest of the subscriber fees become revenue for the cities.
- [6] According to Ernie Bray, the data for every fiber to the premise (FTTP) overbuild are very consistent. US Metronets' demand model is developed based on other markets, and it considers factors such as existing telecommunications infrastructure, incumbent service, their influence and strength of relationships in community, current take rates and penetration levels, and expressed needs and concerns from users and businesses. With this data, they believe a traditional market survey isn't

#### necessary.

- [7] In North Idaho, Frontier Communications and Northland Cable have not heavily invested in their infrastructure and are not likely to do so. The region has a low number of subscribers, so for Frontier, the area is not a high priority for expansion. In fact, they are raising their prices and decreasing the level of bandwidth packages. The cable company does not have the resources to expand their network.
- [8] US Metronets creates a cost model that aims to survive intense scrutiny and convince a good service provider with a solid track record to be the network's anchor (lead) provider. The design needs to be capable of meeting the stringent performance and service requirements of leading telecommunications companies, and the network's infrastructure components need to be accurately sourced and priced. For providers, these upfront elements are key to long-term financial success.

"To have a network that serves the public good, you must create a sound engineering design and use best practices in business and network operations. Furthermore, you have to overcome the biggest argument opponents will throw at you, which is community networks put taxpayers' dollars at risk," says Ernie Bray.

### **About Panhandle Area Council (PAC)**

- [1] Panhandle Area Council, established in 1972, is an Economic Development Agency organized to aid in diversifying and stabilizing the area's economy. Members of the Council are elected officials from North Idaho cities and counties, as well as, the Coeur d'Alene and Kootenai Indian Tribes. The Council serves the five northern counties of Idaho: Boundary, Bonner, Kootenai, Benewah and Shoshone.
- [2] PAC is the only economic development organization in the state that does public leasing. There is an Idaho law that prevents cities and municipalities from doing any capital development that requires payment beyond one year unless they go out for public vote, for which a two-thirds majority iapproval. Therefore, it is challenging for cities and counties to build anything, so municipalities tend to lease resources, yielding minimal return on investment.
- [3] PAC designed a way for municipalities to come to them to build or buy what they want through a leasing arrangement. PAC can purchase an asset, such as a building, then lease it to city for 20 years for 1 year at a time. At the end of 20 years, PAC turns the building over to them for a dollar. This enables the taxpayers to earn some equity on municipal investments. Municipalities need to be able to service lease debt within their own budget. A downside for PAC is that they assume the risk if a municipality determines they no longer want the asset. Then PAC has to sell or re-lease the asset.

# **Key Elements and Conditions to Make Project Possible**

[1] US Metronets' business model has several key elements necessary to obtain private financing and

build a successful, profitable broadband service:

- Highly qualified service provider
- Financing not tax-backed
- · Bond underwriting
- Legal counsel
- Technology
- Marketing
- Commitment

### **Leadership & Outreach**

[2] It is important to have a champion or group of champions such as mayors, city councils, and economic development staff (who also represent the business community) to develop the partnerships. The champion should have some technical understanding.

[3]In the case of North Idaho, the local champion was Karl Dye, Executive Director of the Economic Development Corporation of Sandpoint, and the consultant and technology expert was Ernie Bray, the Chief Technology Officer from US Metronets. Ernie Bray was key in supporting the technical infrastructure assessment. In Powell, Wyoming, which is another fiber to the premises project successfully developed by US Metronets, the local champion was the mayor.

[4]To build awareness of the need and possibilities, Karl Dye convened municipal representatives and made presentations at city council meetings. He met with stakeholder groups including city and county governments, libraries, healthcare, public safety, and the other big potential users of bandwidth. Stakeholders met via conference calls and at a summit or workshop, in which they saw examples of how this could work, how it worked in other communities, the background research nationally, and detailed information about the model.

[5]Once the stakeholders were on board, cities and municipalities needed to sign a memorandum of agreement for a multi-year commitment, which outlined their support and the level of financial commitment they could make. To determine the financial commitment necessary, the consultant estimated how many people the project was going to serve.

### **Project Financing**

[6]Ernie Bray said it would typically take between \$75,000 and \$125,000 for start-up funding to hire project consultants to structure project, get it funded, find an anchor service provider and get the network going. This fee supports establishment of the public/private partnership, lease agreement, procurement of funding, and the funding is returned to investors once the project is capitalized.

[7]The start-up costs for PAC's fiber infrastructure project with the four cities was approximately \$62,500, which is lower because US Metronets financed the development of the federal grant application and had already done most of the necessary research work.

[8]In this case, PAC, an economic development organization, was the lead organization for the project. A municipality, in other cases, could be the lead organization. Essentially, the key is to put together the strongest financial structure and partnerships that provide the most protection to the city. PAC does bonding on its own behalf, has a high capital reserve, and a strong track record of success in their

investments.

[9]This broadband project is funded through an innovative bonding and leasing arrangement. The PAC, which is North Idaho's economic development agency, will sell taxable municipal bonds to fund the project and build the network. PAC will then lease the network to the local government bodies with a yearly appropriation lease. The municipalities will then lease the network to a service provider who will guarantee the bond repayment by paying a wholesale lease for the use of the network through the government body to PAC to retire the debt.

[10]The cities and PAC had to put up funding to help support consultant costs. PAC put up \$10,000, Bonners Ferry put in \$12,500, Ponderay \$10,000, and Sandpoint contributed \$24,500. Other smaller investments came from local banks and businesses. This money will be refunded once project is underway. Most city councils had to pass a resolution to allocate the funds. It is a local decision about how cities obtain that funding; for example, Ponderay is allocating a portion of their resort tax for this. The total cost of the project is approximately \$18 million, which will be financed by bonds.

### **Political Support**

[11]Unanimous political support is important in case of an incumbent challenge. It is critical to have broad and deep support in community to do this type of project at the earliest stages. For this project, there needed to be government support for the yearly lease back arrangement. It is important to help the communities understand what they need and why they need it, and what it will do for their community. In North Idaho, they were aware of the need and the need for lower cost solutions. The Mayor of Sandpoint and city was greatly in favor of project, and other cities looked more favorably upon it because Sandpoint was behind it. It was helpful to have PAC's involvement and financial backing as well.

[12]Having a project price point that was not cost prohibitive was key in getting Kootenai, Ponderay and Bonners Ferry on board. Based on the model projections, there is also an opportunity for them to make some money that could support economic development activities.

### **Technology & Demand Factors**

[13]It is helpful for a community to have access to a Point of Presence (POP) or be able to convince a provider to put one in. In North Idaho, transcontinental fiber goes through the town of Sandpoint. Ernie had relationships with 360Networks and played a key role in establishing the partnership with them. This project is strategic for 360Networks because they have a spur to Moiyee, they go through Bonners Ferry, and it would enable them to offer wholesale services to Missoula, Montana.

[14] North Idaho experienced a lot of growth from companies, including "Lone Eagles" that have moved there with the intent of operating businesses out of house with good quality Internet then found out that it was not adequate. Businesses such as Coldwater Creek, Lighthouse Foods, and Quest Aircraft have a high need for increased broadband which is currently not being met by existing providers. For North Idaho, the potential to lose some viable companies is real. This fiber infrastructure project was a way to avoid that.

### **Key Decision Points & Challenges to Address**

### **Revenue Sharing**

[1]Project teams need to make a decision about revenue sharing. In this case, a sub-committee of the PAC board helped to work on a revenue sharing agreement that designated a 50/50 split with the service provider on the revenue. The cities' revenue will go back to the cities to use for economic development purposes.

### Identifying an Internet Service Provider (ISP)

[2]The project is currently at the stage of identifying a Tier One Internet service provider. This is one of the most time-consuming parts because it is important to find a company that can qualify, and a lot of smaller companies can't get bonded (?). The ISP needs to be able to address any technical issues, have a solid business record and balance sheet, and be competitive in terms of services and pricing with other regional providers.

[3]When trying to attract an ISP and backhaul provider, it is necessary to convince them that there is a marketplace in these communities and that the uptake and community support is going to be there. US Metronets has developed modeling tools to support this. It is great if you can get a regional service provider, but that is not always possible. After the provider is identified and the cities agree on the selection, the cities will sign a lease agreement with PAC and a contract with the local Internet service provider.

### Area and Size of the Project

[4]It is important to size the project right and assess costs and demand. The infrastructure should be defined by the needs of communities within a ten-year window. It might be difficult for a small rural community to develop this infrastructure themselves because of the cost of the fiber line and because the demand needs to be sufficient. For example, Sandpoint was not large enough to finance this project on their own. Partnerships with other communities can become more political because people try to get their own needs met. However, it is in the best interest of everyone to have a system that will be competitive in terms of price, performance, and offerings. People have to look at regional benefit in addition to how it serves their community.

### The Incumbent Challenge

[5]The incumbents will try to squelch competition. There may be a competitive response in North Idaho, but the providers would need to drop their prices or expand their services, and they have limited capacity or funds to do so. In some communities, they may have a local cable company that would fight harder through the political process to block.

## **Generating Awareness and Demand through Outreach**

[1]Generating awareness among the unserved, underserved, or those currently not subscribing to broadband will increase the "take rate" or penetration rate. Participating communities should do some outreach and awareness building about broadband and how it helps the community and residents be competitive. They may not be aware of the full capacity of what broadband can do for libraries, schools, hospitals, businesses, economic development and themselves.

[2]There are two types of awareness building needed to drive broadband adoption and maximize the benefit of fiber infrastructure to the community:

1) the marketing of services by the Internet service provider and 2) public awareness of how high speed broadband can be used by the organizations such as businesses, education institutions, and health care providers.

[3]The consultant, Ernie Bray, will work with representatives from economic development, schools, and businesses to help them realize the benefit of adopting fiber to the premises through meetings and conversations. For example, with IPTV, cities can create new channels, such as a community marketplace channel to drive local business and focus on local content and services. Schools can identify how people can connect students at home to school networks for distance learning and accessing educational resources. It is essential to implement a program of working with the service provider to make these partnerships. A good service provider understands the value of partnerships with local community to do innovative things.

[4]In Powell, Wyoming, they developed several targeted outreach campaigns including a workshop series, banners, and a Web site to inform people how the fiber infrastructure could benefit education, health care and economic development--"Our Fiber, Our Education," "Our Fiber, Our Community" and "Our Fiber, Our Future."

### **Project Timeline**

[5]North Idaho been working on this project almost two years, although part of that time was spent trying to get the NTIA grant. It was time consuming to get the partnerships lined up. Another time consuming phase is identifying a service provider. It will likely be two years before the network is operational. The consultant's future payments will come from bond.

[6] This project could be replicated in other parts of Idaho. If this PAC fiber infrastructure project model works like it did in Powell, Wyoming, the project could be extended beyond the initial four cities, for instance, to Coeur d'Alene.

For additional information about Powell, Wyoming's efforts visit:

Broadband Properties Article PDF

http://www.dailyyonder.com/big-broadband-success-small-town-wyoming/2011/06/07/3364 http://www.muninetworks.org/content/short-history-powellink-muni-fiber-wyoming

### **Appendix**

### **Regional Description**

Dozens of small towns and cities with the majority having populations lower than 2,000 people make up this five county region. Coeur d'Alene is the largest city in the region and the 6th largest city in the state with an estimated population of over 43,000 people. Post Falls is the second largest city in the region with over 26,000 people. Hayden has an estimated population of over 13,000 people. The smallest town in the region is State Line with an estimated 62 people.

Overall, total population in the five county area of Region 1 increased from 178,333 in 2000 to 213,662 in 2009 8.9%. During this time period, the state's population declined -0.3%. Kootenai County experienced the largest percentage population growth gaining 28.3% of its population between 2000 and 2009. The only county in this region to experience a population decline is Shoshone County at -8.1%.

Compared to the state, the region is very dense with an average of 30.5 people per square mile compared to an average of 1.8 people per square mile for the state. Shoshone County is least densely populated in the region with an average of 4.8 people per square mile compared to Kootenai County which is the most dense in the region with an average of 105.9 people per square mile.

Based on 2008 Census estimates, 94.2% of the region's population are White compared to 93.9% of the state's population. Benewah County at 87.7% holds the lowest White population, below the Region 1 average of 94.2% White. In Benewah County, 9.8% of the population are American Indian. In Boundary County, Hispanic's represent 3.9% of the total population compared to the state total of 2.0% Hispanic. The Asian population in Region 1 is less than 1%.

With the exception of Bonner and Kootenai Counties, educational attainment levels are generally below the state average. Statewide, 82.9% of the population over 25 have a high school degree or higher. In Shoshone County, the percentage of the population with a high school diploma or higher is greater than 77.9%. The percent of adults with a Bachelor's Degree or higher in the seven county region is 14.5% compared to 14.4% for the state. Consistent with the overall trends of the state, a higher proportion of the population of the five county region have graduated from high school compared to the nation.

2007 per capita income in the region is \$27,800 compared to an average of \$24,789 for the state of Idaho and \$38,615 for the country. The highest per capita income levels are in Kootenai County (\$30,719) and the lowest in Boundary County (\$21,314). Poverty rates follow per capita income with a 2008 poverty rate in Kootenai County of 9.0% compared to 18.0% in Lincoln County. On average, the poverty rate for the region is 14.4% compared to a 19% rate for the state.

Region 1 benefits from a diversified economic base. Overall, economic drivers for Region 1 include local government and trade, transportation, and utilities. Approximately 11% of employment in all five counties is attributed to Education and Heath Care and 11% of employment is attributed to Leisure and Hospitality.

The super-sector education and health services, represents 11.73% of all regional employment compared to about 13.5% of the total state share for this sector. Health Care facilities are among the top five employers in the five county region. Similarly, local school districts are major employers in the five county regions.

The local government sector represents approximately 18% of the region's employment compared to about a 13% share for the state as a whole. In Benewah County, 35.32% of total employment is attributable to the local government sector.

The Trade, Transportation and Utilities Sector dominates in Region 1 with 20.19% of the workforce. The region is host to several trucking business.

#### **Economic Trends:**

Region 1 is a part of the Northern Labor Market region including Benewah, Bonner, Boundary, Kootenai, and Shoshone Counties. The following information identifies the projected employment change by major sector for the Northern Labor Market Region.

Total Employment net new jobs 20,697

Self-Employed and Unpaid Family net new jobs -290

Agriculture, Forestry, Fishing and Hunting net new jobs -338

Mining net new jobs -32

Utilities net new jobs 120

Construction net new jobs 2,047

Manufacturing net new jobs 1,793

Wholesale Trade net new jobs 1,031

Retail Trade net new jobs 3,183

Transportation and Warehousing net new jobs 604

Information net new jobs 658

Finance and Insurance net new jobs 1,905

Real Estate and Rental and Leasing net new jobs 278

Professional, Scientific, and Technical Services net new jobs 248

Management of Companies and Enterprises net new jobs 393

Administrative and Support and Waste Management and Remediation Services net new jobs 1,159

Educational Services (all ownership) net new jobs 921

Health Care and Social Assistance excluding federal net new jobs 2,800

Arts, Entertainment, and Recreation net new jobs 671

Accommodation and Food Services net new jobs 1,188

Other Services (except Public Administration) net new jobs 463

Government (all federal, state w/o education & hospitals, local w/o educ & hospitals) net new jobs 1,888 Unknown net new jobs 7

In general, the projected future growth prospects are positive for most of the economic drivers in the region. Job growth is expected in Retail Trade Health Care and Construction are expected to add significant jobs over the ten year period beginning in 2006 and ending in 2016. Between 2006 and 2016, Mining and Agriculture, Forestry, Fishing, and Hunting employment is projected to decline 2.8% for the North Central Workforce Development Region.

### **Major Employers:**

The top five employers in each county listed above typically employ at least 50 people and often more than 300. Kootenai County's top five employers typically employ at least 900 people and the largest employer, Kootenai Medical Center, employs 2,000 - 2,900 people. These employers are reflective of the regions economic drivers described above, led in particular by health care and local government.

### **Workforce Profile:**

NOTE OCCUPATIONAL PROJECTIONS FOR WORKFORCE DEVELOPMENT REGIONS ARE AVAILABLE IN EXCEL FORMAT AT

### http://lmi.idaho.gov/Occupations/LongTermProjections/20082018RegionalLon...

r1\_all occs.xls

The following occupational categories are projected to result in the ten largest net job growth between 2008 and 2018 within the Idaho Department of Labor Northern Idaho Occupation Projections of which Region 1 is a part.

Total, All Occupations net new jobs 13,787

Office and Administrative Support Occupations net new jobs 2,763

Sales and Related Occupations net new jobs 1,799

Production Occupations net new jobs 1,358

Retail Sales Workers net new jobs 1,348

Food Preparation and Serving Related Occupations net new jobs 1,334

Healthcare Practitioners and Technical Occupations net new jobs 1,033

Information and Record Clerks net new jobs 933

Retail Salespersons net new jobs 900

Healthcare Support Occupations net new jobs 872

Personal Care and Service Occupations net new jobs 797

These data emphasize job growth is projected to grow across a wide spectrum of occupational skill categories. Some fields such as Health Care Practitioners or Registered Nurses will require workers with higher levels of education. Others such as retail occupations may require less formal post high school education.

Overall the occupational and industry trends framing economic development in Region 1 point to the need for effective education and training networks including the continued leveraging of distance delivery technologies supporting access at home and at places of work.

To help meet this need for the healthcare industry, the North Idaho Rural Health Consortium received a \$421,622 grant in 2010 from the USDA Distance Learning and Telemedicine Program. This grant will serve Benewah, Bonner, Boundary, and Shoshone counties and will upgrade and expand the telemedicine and the distance learning system of four hospitals in the rural, mountainous panhandle of Idaho. The upgrades include a new video bridge, a new room for video systems, and the addition of a telemedicine video chart at each site. These improvements will allow new services such as tele-psychiatry, special consultations, cardio-care follow up, and diabetes education.

#### **Broadband Availability**

### Providers of Service:

Thirteen providers in four categories responded to the LinkIDAHO "provider survey" (2010) indicating they deliver a broadband service within the Panhandle Region. Among those providers, one company reports delivering Digital Subscriber Line Service, four cable providers offer a broadband service, two fixed wireless and six provide mobile broadband service. The table below summarizes the number of broadband service providers offering service in each county of the region for the different technologies.

Percent of Region/County Population living in Census Blocks with Technology Type Offered:							
Region/County	Copper, DSL	Cable	Fiber	Fixed Wireless	Mobile Wireless		
Region 1	68.18	64.85	0.01	97.37	98.15		
Benewah	16.57	24.04	0	85.35	85.63		
Bonner	50.34	28.74	0	96.04	95.67		
Boundary	28.69	0	0	99.28	98.94		
Kootenai	78.58	86.74	0.01	99.69	99.72		
Shoshone	79.42	17.97	0	82.37	96.72		

	Telco xDSL	Cable	Fixed Wireless	Mobile Wireless	
Reported Maximum Download Speeds	6 - 10 Mbps	768 Kbps - 10 Mbps	1.5 Mbps - 3 Mbps	768 Kbps - 1.5 Mbps	
Benewah	1	1	2	4	
Bonner	1	1	0	5	
Boundary	1	0	0	2	
Kootenai	1	2	2	6	
Shoshone	1	2	0	2	

Source: 2010 LinkIDAHO Provider Survey

### Telco xDSL

Digital Subscriber Line (DSL) is the most prevalent of broadband services in the region. DSL has been the primary broadband technology deployed by telephone companies for quite some years because it makes good use of existing phone lines. Panhandle providers responding the LinkIDAHO survey report maximum download speeds ranging between 6 Mbps to 10 Mbps over DSL lines. Many factors determine the potential delivered speed. Only one DSL provider operates in every count of the region. Frontier reports offering DSL in every county of the Panhandle Region.

### Cable

Four cable TV companies also offer high speed internet service. Broadband is provided over a combination of coaxial and fiber lines with speeds. Suddenlink Communications offers a high speed internet service in Benewah, Kootenai, and Shoshone Counties. Northland Cable Television reports offering a cable service Bonner County. Time Warner Cable offers service in Kootenai. Mullan Cable offers

service in Shoshone County. No companies provide service in Boundary County. Maximum download speeds offered by cable providers responding to the LinkIDAHO survey are between 768 Kbps and 10 Mbps.

### Fixed Wireless

First Step Internet and Red Spectrum Communication offer fixed wireless broadband service in Bennewah and Kootenai Counties. No companies offer fixed wireless broadband in Bonner, Boundary, and Shoshone Counties. The companies providing fixed wireless to the customer connections in Panhandle Region report maximum download speeds in the range between 1.5 Mbps to 3 Mbps.

### Mobile Wireless

Verizon Wireless and AIR-PIPE provide a broadband service in all five Panhandle Region Counties. AT&T Mobility LLC, T-Mobile, Cricket Communications and Sprint also offer broadband service in selected areas of the region. Kootenai County offers six different mobile wireless broadband providers and Bonner County has five. Mobile wireless carriers providing a broadband service in the region indicate the maximum download speed they offer is between 768 Kbps and 1.5 Mbps.

Additional data on household and business broadband availability by census block (according to the LinkIDAHO Provider survey 2010) follows:

### Number of Households per Download Speeds for Region 1

Total Number of Households: 84,969

Number of Households in Census Blocks with Mobile Broadband only: 701

Number of Households in Census Blocks with Advertised speeds of Less than 768 kbps or No

broadband available: 4,408

Number of Households in Census Blocks with Advertised speeds of 768 kbps - 3 Mbps: 15,580

Number of Households in Census Blocks with Advertised speeds of 3 Mbps - 10 Mbps: 20,015

Number of Households in Census Blocks with Advertised speeds of 10 Mbps - 25 Mbps: 47,956

Number of Households in Census Blocks with Advertised speeds of 25 Mbps or greater: 21

### Number of Business Firms per Download Speeds for Region 1

Total Number of Business Firms: 12,471

Number of Business Firms in Census Blocks with Mobile Broadband only: 85

Number of Business Firms in Census Blocks with Advertised speeds of Less than 768 kbps or No

broadband available: 1,270

Number of Business Firms in Census Blocks with Advertised speeds of 768 kbps - 3 Mbps: 1,929

Number of Business Firms in Census Blocks with Advertised speeds of 3 Mbps - 10 Mbps: 3,691

Number of Business Firms in Census Blocks with Advertised speeds of 10 Mbps - 25 Mbps: 6,672

Number of Business Firms in Census Blocks with Advertised speeds of 25 Mbps or greater: 13

### **New Infrastructure Funding**

In 2010, a \$6.1 million grant and \$6.1 million loan was awarded to the Coeur d'Alene Tribe by the NTIA through ARRA funding. This project will deploy a fiber-to-the-home (FTTH) broadband system to provide improved broadband services to anchor institutions, critical community facilities, and approximately 3,770 unserved and underserved households in the communities of Plummer, Worley, Tensed, and DeSmet. The project will include service to isolated farms and rural home sites on the Coeur d'Alene Indian Reservation in North Idaho.

### **Broadband Adoption**

From Region 1, 275 people responded to the LinkIDAHO consumer survey administered via phone and web in July-December 2010. People were asked to select all answers that apply when responding to the question about devices used to access the Internet. The majority of Region 1 access the internet from a home computer. Of those who responded to the survey, 83.6% selected home computer as a device they use to access the Internet. The second most selected category to access to Internet is a work computer at 42.5% followed by a school computer at 20.7%. 16.4% of those who responded selected computer anywhere else. Only 8% of Region 1 responded don't know/refuse to answer. Portable devices are not as commonly used as a tradition computer, 14.5% selected smart phone, 12.4% selected other mobile phone, and 15.3% selected other portable device that can access the Internet.

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